

Grad-01-1000L
Single Axis Fluxgate Magnetic Gradiometer

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The Grad-01-1000L is a vertical component magnetic gradiometer, designed for use alone or as one element in a gradiometer array such as the Grad601 system for rapid data collection over large areas.

The gradiometer contains two fluxgate elements spaced 1m apart, together with the necessary electronics to provide output, housed in a rugged, lightweight 38mm diameter protective tube.

The unit is designed to interface with the DL601 Data Logger to display output and allow background influences to be nulled electronically. The enclosure is clearly labelled with a direction arrow to facilitate orientation during set-up.



Features

- Resolution around 50pT/m
- Bandwidth of DC to 10Hz (200Hz option on request)
- Range of $\pm 100\text{nT/m}$ or $\pm 1000\text{nT/m}$
- Exceptional temperature stability ensures minimal drift
- Each sensor contains electronics and non-volatile memory for calibration data storage
- Can be operated independently, over long cables, if required
- Fully sealed for operation under wet conditions

Typical applications

- Archaeological and geophysical surveys
 - UXO detection
 - Integration in multi-sensor instruments
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Grad-01-1000L Specifications

Performance

Sensor element spacing	1m
Gradient range	$\pm 100\text{nT/m}$ or $\pm 1000\text{nT/m}$ full scale
Output	$\pm 4\text{V}$ full scale, output impedance $1\text{k}\Omega$
Accuracy	$\pm 1\%$
Maximum ambient field	$\pm 100\mu\text{T}$
Noise	100pT pk-pk max.
Differential Drift	$<0.02\text{nT}/^\circ\text{C}$ (warm up time 2-3 minutes)
Bandwidth	DC to 10Hz min. with -12dB/octave roll off (200Hz option on request)

Environmental

Environmental protection	IP65
Operating temperature	-20°C to $+70^\circ\text{C}$

Mechanical

Size	38mm diameter x 1052mm in length
Weight	0.82kg (1.8lb)
Connector	12 pole Tajimi R04-R12M

Electrical

Power supply	12V nominal (9.5 - 18.5V) unregulated, polarity protected
Power supply current	58mA
Pull-up current (pins 5-11)	0.5mA when held low



Bartington[®]
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Bartington Instruments Limited,
5, 10 & 11 Thorney Leys Business Park,
Witney, Oxford, OX28 4GE, England.

T: +44 (0)1993 706565
F: +44 (0)1993 774813
E: sales@bartington.com

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